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# The DoD Drawdown: Planned Spending and Employment Cuts

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Irv Greenberg  
Lawrence Schwartz  
Peter F. Kostiuk  
Earl R. Wingrove, III

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January 1993

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Irv Greenberg  
Lawrence Schwartz  
Peter F. Kostiuk  
Earl R. Wingrove, III

This paper was prepared as input to the Defense Conversion Commission in the preparation of its December 1992 report, *Adjusting to the Drawdown*. This paper does not necessarily reflect the findings, conclusions, or recommendations of the Defense Conversion Commission, the Department of Defense, or any other Federal department or agency, nor does the Commission necessarily endorse the views expressed herein.

Logistics Management Institute  
6400 Goldsboro Road  
Bethesda, Maryland 20817-5886

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# Executive Summary

Current Department of Defense (DoD) plans call for large reductions in outlays and DoD military and civilian personnel. The defense drawdown plan described in President Bush's FY93 amended budget projects real declines in DoD outlays of 23 percent from FY92 through FY97. At the end of that period, annual outlays will have decreased by \$69 billion. With predicted economic growth of about 3 percent per year, by 1997 DoD spending will be about 3.5 percent of gross domestic product (GDP), its lowest level since 1950. The spending reductions will affect all areas of the DoD's budget, although some areas will be affected more than others. Procurement, for example, will fall 29 percent during the next 5 years, following the 24 percent decline occurring between FY87 and FY92. Consistent with the new national military strategy, research, development, test, and evaluation will fall less over this period.

The defense drawdown plan calls for a 25 percent reduction in active duty military personnel between FY87 and FY97. By the end of FY92, active duty forces already had been reduced by about 17 percent, indicating that about two-thirds of the planned personnel reductions had already been executed.

Military reserve personnel strength remains higher than planned because Congress continues to indicate an unwillingness to reduce the DoD's Reserve Component as sharply as the active duty forces. By the end of FY92, the Selected Reserves were only 36,000 below their end strength in FY87, a reduction of only 3 percent.

Planned reductions of DoD civilian personnel also will be substantial, although not nearly as great as the reductions of active duty military personnel. Between FY87 and FY97, worldwide DoD civilian employment will decrease by 229,000 jobs, a decline of about 20 percent. Around 50 percent of that civilian employment reduction had already occurred by the end of FY92.

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Because the United States has reduced, and will continue to reduce its overseas bases, many of the separated civilian employees will be foreign nationals. Thus, this mitigates the impact of the job losses on the U.S. economy. More than 50 percent of the active duty military force reductions will be overseas personnel. Consequently, active duty military jobs located in the United States will decrease by only 272,000 between FY87 and FY97. Similarly, about 20 percent of the DoD civilian job loss occurring during FY92 through FY97 will be overseas. The U.S. domestic DoD civilian employment decrease will be a total of about 82,000 jobs during the next 5 years.

The DoD employment reductions, although large, do not directly imply a large increase in the number of involuntary separations. Active duty military personnel reductions are made through a balanced combination of reductions in accessions and increased separations. With the drawdown carried out steadily over a period of time, reduced accessions in recent years have already eliminated most of the need for unusually large-scale active duty personnel separations. Active duty military separations are slated to peak at 389,000 in FY92.<sup>1</sup> In comparison, FY87 separations totaled 334,000. Planned separations for FY93 will be about 345,000, and then drop below 300,000 through FY97. Consequently, active duty military separations occurring during the drawdown years will be lower, on average, than during the 1980s, when government-sponsored assistance programs were less available. Involuntary separations of DoD civilians through reductions-in-force (RIFs) are expected to average only 5,000 per year through FY97.

Reductions in military spending will have a greater impact on private-sector industry workers. As DoD real outlays fall by 23 percent from FY92 through FY97, private-sector defense-related employment is likely to decline by about 803,000 jobs. This 27 percent drop in employment exceeds the decline in outlays because of the shift in DoD spending away from procurement of goods and services, which has a greater effect on private-sector employment. Once again, these employment reductions do not necessarily directly translate into layoffs. Much of the decreased demand for private-sector defense workers will be accommodated in the course of normal labor turnover,

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<sup>1</sup>FY92 active military separations were likely to be artificially high (and FY91 unusually low) because of the personnel policies used by the Military Services to meet their manpower requirements for Operations Desert Shield and Desert Storm.

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as some workers will retire or take other jobs. The job losses will also occur gradually over a period of several years. Nonetheless, the disappearance of nearly one million jobs over a 5-year period presents a significant challenge and opportunity to the economy as it adjusts to the change in national spending priorities.

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## CHAPTER 1

# Defense Drawdown Plan

## INTRODUCTION

This report addresses the employment implications of the defense drawdown. Chapter 1 presents a discussion of the budget and DoD employment reductions between FY87 and FY97. Chapter 2 presents data about separations of individuals from the active duty military and from DoD civilian employment. Chapter 3 presents estimates of the potential loss in private-sector defense-related employment due to reductions in DoD spending.

In 1991, facing a declining Soviet threat, DoD adopted a new national military strategy that shifted the focus from a global war scenario to worldwide regional war scenarios. That strategy provides for the following:

- Maintenance of a reliable strategic deterrent
- Credible forward presence of forces capable of participating in joint and combined operations
- Quick reinforcement of the forward military presence as crises emerge
- Reconstitution of the military force structure, technology, and experienced personnel to meet the possible re-emergence of a global threat.

These strategic principles form the basis for this defense drawdown plan.<sup>1</sup>

The defense drawdown manifests itself in various ways. For example, DoD will reduce the number of active Army divisions from

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<sup>1</sup>For full particulars on the new national military strategy, see statement of General Colin Powell, Chairman of the Joint Chiefs of Staff, before the Committee on Armed Services, United States Senate, 31 January 1992.

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18 to 12, reduce fighter-wing equivalents from 24 to 15, and reduce carrier battle groups from 15 to 12. Also, with passage of the 1991 National Defense Authorization Act, the Secretary of Defense recommended closing more than 30 bases in the continental United States, and must submit 1993 and 1995 plans to the independent Defense Base Closure and Realignment Commission recommending additional base closures. Finally, the DoD Comptroller has implemented the Defense Business Operations Fund that requires defense managers to meet strict unit cost goals for reducing operating budgets throughout DoD. For all those reasons, we can expect continued reductions in military personnel and training, in civilian research, in hardware development and production, and in other functions.

In this discussion of the defense drawdown, we first analyze the proposed DoD budget in both overall and programmatic terms. Afterwards, we assess DoD manpower changes for the Military Services and defense agencies, including the location and nationality of those personnel.<sup>2</sup> The budget and DoD manpower analyses are useful for gauging economic effects and job losses.

## DEFENSE BUDGET DRAWDOWN

### Overall Budget

Signs of future DoD budget downturns already were apparent between FY87 and FY92. During that period, budget authority was expected to drop by 1.1 percent in current dollars and by 17.1 percent in constant 1993 dollars (so-called "real terms"). In real terms, however, outlays had already declined by 10 percent between FY87 and FY92 (see Table 1-1). Figures reflect full spending for Operations Desert Shield and Desert Storm – regardless of whether the costs were borne internally or by our allies – in order to evaluate the effects on the economy. Thus, offsetting receipts from our allies, normally subtracted from the budget, are included in the budget totals for this purpose.

Turning to future years, the DoD budget (as of February 1992) calls for \$268 billion in budget authority and \$278 billion in outlays for FY93.<sup>3</sup> Between FY92 and FY93, budget authority would decline by 2.9 percent in current dollars and by 6.6 percent in real terms. With

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<sup>2</sup>The planned DoD spending and employment reductions discussed in this report are based on President Bush's FY93 Amended Budget submission.

<sup>3</sup>Congress approved a \$274.3 billion defense authorization bill for FY93 – slightly higher than the Administration's proposed budget authority.

**TABLE 1-1**

*DoD Budget Authority and Outlays, FY87 Through FY97*  
*(Billions of dollars)*

Item	1987	1991 <sup>a</sup>	1992	1993	1994	1995	1996	1997	Percentage change		
									1987 - 1992	1992 - 1997	1987 - 1997
<b>Budget authority</b>											
Current dollars	279	334	276	268	268	270	270	275	-1.1	-0.4	-1.4
Current dollar growth <sup>b</sup>	-	19.7	-17.4	-2.9	0.0	0.7	0.0	1.9	-	-	-
Constant 1993 dollars	346	355	287	268	258	250	242	238	-17.1	-17.1	-31.2
Constant dollar growth <sup>b</sup>	-	2.6	-19.1	-6.6	-3.7	-3.2	-3.2	-1.7	-	-	-
<b>Outlays</b>											
Current dollars	274	305	295	278	270	269	271	274	7.7	-7.1	0.0
Current dollar growth <sup>b</sup>	-	11.3	-3.3	-5.8	-2.9	-0.4	0.7	1.1	-	-	-
Constant 1993 dollars	340	324	306	278	260	250	243	237	-10.0	-22.5	-30.3
Constant dollar growth <sup>b</sup>	-	-4.7	-5.6	-9.2	-6.5	-3.8	-2.8	-2.5	-	-	-

Sources: Fiscal Year 1993 budget submission, *Budget of the United States Government, Supplement, February 1992*; *National Defense Budget Estimates for FY 1993*, (the "Greenbook"), Office of the Comptroller, Department of Defense, March 1992.

<sup>a</sup> Offsetting receipts for the Persian Gulf War in 1991 - \$43 billion - are not subtracted from, but added to, budget numbers to capture spending and its effect on the economy.

<sup>b</sup> Expressed as annual percentage changes.

continued reductions in budgetary authority, outlays now would decline in both current dollars (-5.8 percent) and real terms (-9.2 percent).

From FY92 to FY97, the defense drawdown plan shows cumulative budget authority and outlays of more than \$1.6 trillion (in current dollars). Both defense budget authority and outlays would average slightly more than \$270 billion a year over this period. In real terms, budget authority would fall by 17.1 percent or by an annual average of 3.4 percent between FY92 and FY97 - exactly the same rates of

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decline as those between FY87 and FY92. However, real outlays would drop much more sharply during the FY92 through FY97 period: 22.5 percent (an annual average of 4.5 percent) – more than twice the comparable rates of decline for the FY87 through FY92 period.

By FY97, the Future Years Defense Program calls for consumption of substantially fewer economic resources (relative to gross domestic product) than anytime since 1950. That program calls for continued real reductions in the baseline defense program that were shown in the 1991 5-year program, but at an accelerated pace. Real annual outlays under the 1992 through 1997 program would decline by more than twice the rate of those for the FY91 through FY95 program (i.e., 4.5 percent versus 2.1 percent). With the gross domestic product (GDP) expected to grow by about 3 percent according to the Bush Administration's midyear (1992) review, defense outlays would drop to about 3.5 percent of GDP by FY97, lower than anytime since 1950. Furthermore, defense outlays would fall to about 16 percent of the total Federal budget – one of the lowest levels since 1950. Clearly, the overall defense budget reductions are significant.

## Defense Programs

The budget authority for procurement would show the largest drop among the major categories between FY87 and FY97 (see Table 1-2). Procurement would drop by over 44 percent in real spending over the decade, with the majority of the decline occurring during the first 5 years of the period. Real spending in all other major categories will also decrease by large amounts. The military personnel category is projected to decrease by nearly 30 percent, while RDT&E will drop 27 percent and operations and maintenance spending will decrease by 22 percent.

The DoD program outlays translate budget authority into spending levels and, when adjusted for inflation, are best used to gauge economic effects (see Table 1-3). In constant 1993 dollars, FY92 through FY97 procurement outlays would drop by the highest rate (28.9 percent), while RDT&E would fall by less than one-half of that rate (13.5 percent). The differences in real outlays between these two budget categories are consistent with the new national military strategy: procurement is cut most sharply as the United States shifts from a global threat to worldwide regional threat scenarios; and RDT&E is maintained closer to its current level – especially basic research and exploratory development – so that we can reconstitute the latest technology to meet a possible reemergence of a global threat. Funding for military personnel would drop by about

**TABLE 1-2**

*DoD Budget Authority by Program, FY92 Through FY97*  
*(Billions of dollars)*

Program	1987	1991	1992	1993	1994	1995	1996	1997	Percent change		
									1987 - 1992	1992 - 1997	1987 - 1997
<b>Current dollars</b>											
Military personnel	74	84	79	77	72	72	74	76	6.7	-3.8	2.7
Operations and maintenance	80	132	92	86	84	85	88	90	15.0	-2.2	12.5
Procurement	80	72	60	54	59	63	62	63	-25.0	5.0	-21.3
Research, development, test, and evaluation	36	36	37	39	40	38	37	36	2.7	-2.8	0.0
Military construction/Family housing	8	8	8	10	13	11	10	10	0.0	0.0	25.0
Other <sup>a</sup>	1	2	0	2	0	1	-1	0	-	-	-
<b>Total</b>	<b>279</b>	<b>334</b>	<b>276</b>	<b>268</b>	<b>268</b>	<b>270</b>	<b>270</b>	<b>275</b>	<b>-1.1</b>	<b>-0.4</b>	<b>-1.4</b>
<b>Constant 1993 dollars</b>											
Military personnel	91	91	83	77	69	66	65	64	-8.8	-22.9	-29.7
Operations and maintenance	100	138	95	86	81	79	79	78	-5.0	-17.9	-22.0
Procurement	99	76	63	54	57	59	56	55	-36.3	-12.7	-44.4
Research, development, test, and evaluation	44	39	38	39	39	36	34	32	-13.7	-15.8	-27.2
Military construction/Family housing	10	9	9	10	12	10	9	8	-10.1	-11.1	-20.0
Other <sup>a</sup>	2	2	-1	2	0	0	-1	1	-	-	-
<b>Total</b>	<b>346</b>	<b>355</b>	<b>287</b>	<b>268</b>	<b>258</b>	<b>250</b>	<b>242</b>	<b>238</b>	<b>-17.1</b>	<b>-17.1</b>	<b>-31.2</b>
<b>Constant dollar growth (annual percentage change)</b>											
Military personnel	-	0.0	-8.8	-7.2	-10.4	-4.3	-1.5	-1.5	-	-	-
Operations and maintenance	-	38.0	-31.0	-9.5	-5.8	-2.5	0.0	-1.3	-	-	-
Procurement	-	-23.0	-17.1	-14.2	5.6	3.5	-5.1	-1.8	-	-	-
Research, development, test, and evaluation	-	-11.3	-2.5	2.6	0.0	-7.7	-5.6	-5.9	-	-	-
Military construction/Family housing	-	-10.0	0.0	11.1	20.0	-16.7	-10.0	-11.1	-	-	-
Other <sup>a</sup>	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>2.6</b>	<b>-19.1</b>	<b>-6.6</b>	<b>-3.7</b>	<b>-3.2</b>	<b>-3.2</b>	<b>-1.7</b>	<b>-</b>	<b>-</b>	<b>-</b>

Sources: Fiscal Year 1993 budget submission, *Budget of the United States Government, Supplement*, February 1992; *National Defense Budget Estimates for FY 1993*, (the "Greenbook"), Office of the Comptroller, Department of Defense, March 1992.

<sup>a</sup> "Other" includes offsetting receipts and other costs except those costs connected with the Persian Gulf War in 1991.

24.1 percent – compared with only a 5.7 percent decrease between FY87 and FY92. With a diminished Soviet threat starting in 1991, active-duty military end strength alone would fall by 10 percent between FY92 and FY97. With the forces shrinking between FY92 and FY97, operations and maintenance (O&M) outlays – which include

training of the forces — also would be reduced by 23.8 percent during this period.

**TABLE 1-3**

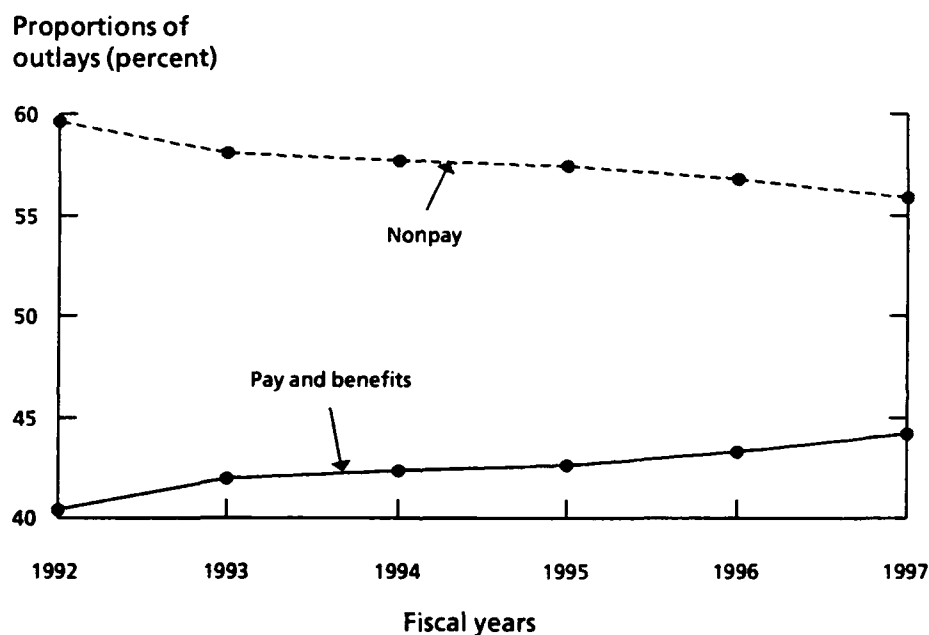
*DoD Budget Outlays by Program, FY92 Through FY97*  
(Billions of dollars)

Program	1987	1991	1992	1993	1994	1995	1996	1997	Percent change		
									1987 - 1992	1992 - 1997	1987 - 1997
<b>Current dollars</b>											
Military personnel	72	83	79	77	72	72	73	75	9.7	-5.1	4.2
Operations and maintenance	76	102	98	88	84	84	87	89	28.9	-9.2	17.1
Procurement	81	82	74	67	64	62	62	61	-8.6	-17.6	-24.7
Research, development, test, and evaluation	34	35	36	38	39	39	37	37	5.9	2.8	8.8
Military construction/Family housing	9	6	8	10	11	12	12	11	-11.1	37.5	22.2
Other <sup>a</sup>	2	-3	0	-2	0	0	0	1	-	-	-
<b>Total</b>	<b>274</b>	<b>305</b>	<b>295</b>	<b>278</b>	<b>270</b>	<b>269</b>	<b>271</b>	<b>274</b>	<b>7.7</b>	<b>-7.1</b>	<b>0.0</b>
<b>Constant 1993 dollars</b>											
Military personnel	88	90	83	77	69	66	64	63	-5.7	-24.1	-28.4
Operations and maintenance	96	106	101	88	81	78	78	77	5.2	-23.8	-19.8
Procurement	100	87	76	67	62	58	56	54	-24.0	-28.9	-46.0
Research, development, test, and evaluation	42	37	37	38	38	36	34	32	-11.9	-13.5	-23.8
Military construction/Family housing	11	8	9	10	11	11	11	10	-18.2	11.1	-9.1
Other <sup>a</sup>	3	-4	0	-2	-1	1	0	1	-	-	-
<b>Total</b>	<b>340</b>	<b>324</b>	<b>306</b>	<b>278</b>	<b>260</b>	<b>250</b>	<b>243</b>	<b>237</b>	<b>-10.0</b>	<b>-22.5</b>	<b>-30.3</b>
<b>Constant dollar growth (annual percentage change)</b>											
Military personnel	-	2.3	-7.7	-7.2	-10.3	-4.3	-3.0	-1.6	-	-	-
Operations and maintenance	-	10.4	-4.7	-12.9	-8.0	-3.7	0.0	-1.3	-	-	-
Procurement	-	-13.0	-12.6	-11.8	-7.4	-6.5	-3.3	-3.4	-	-	-
Research, development, test, and evaluation	-	-11.9	0.0	2.7	0.0	-5.3	-5.6	-5.9	-	-	-
Military construction/Family housing	-	-27.3	12.5	11.1	10.0	0.0	0.0	-9.1	-	-	-
Other <sup>a</sup>	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>-4.7</b>	<b>-5.6</b>	<b>-9.2</b>	<b>-6.5</b>	<b>-3.8</b>	<b>-2.8</b>	<b>-2.5</b>	<b>-</b>	<b>-</b>	<b>-</b>

Sources: Fiscal Year 1993 budget submission, *Budget of the United States Government, Supplement*, February 1992; *National Defense Budget Estimates for FY 1993*, (the "Greenbook"), Office of the Comptroller, Department of Defense, March 1992.

<sup>a</sup> "Other" includes offsetting receipts and other costs except those costs connected with the Persian Gulf War in 1991

The changing emphasis among budget program categories would raise the proportion of pay to total outlays between FY92 and FY97.<sup>4</sup> The rise in the proportion of pay occurs because the DoD's procurement account – which does not reflect pay at all – declines most significantly; yet, other budget categories that have a relatively high proportion of pay (e.g., military personnel is about 90 percent and O&M is about 65 percent) change relatively less. As a result, budget outlays shift toward pay and away from nonpay categories between FY92 and FY97 (see Figure 1-1). Pay constituted 40.4 percent of outlays in FY92 (59.6 percent was nonpay) and would rise steadily to 44.1 percent in FY97 (55.9 percent is nonpay).



**FIGURE 1-1**  
*DoD Pay/Nonpay Proportions of Outlays – Forecasts*

<sup>4</sup>Pay includes the entire civilian payroll, active military personnel payroll and accrued retirement, and other military personnel pay and associated retirement costs. FY92 and FY93 data were obtained from *National Defense Budget Estimates For FY93* (the "Greenbook"), Office of the Comptroller, Department of Defense, March 1992; FY94 through FY97 data were obtained from the Office of the DoD Comptroller.



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## Changes in Procurement

We now summarize specific military procurement requests made for FY93 and compare them to the FY91 and FY92 levels. To make this comparison, we use basic data from various unclassified sources: Procurement Programs (P-1), *Department of Defense Budget For Fiscal Year 1993*, January 29, 1992; RDT&E (R-1), *Department of Defense Budget For Fiscal Year 1993*, January 29, 1992 and the FY93 DoD budget passed by the Congress. Our discussion is structured along the following category lines: aircraft; communication and electronics; missiles; ships; tanks and armored vehicles; and the strategic defense initiative (SDI). We also touch upon the January 1993 Bush-Yeltsin agreement on strategic forces and comment on its potential budgetary implications.

Specific DoD procurement requests for FY93 reflect a revised acquisition strategy that is an outgrowth of the new national military strategy. Traditionally, DoD has undertaken production before R&D was fully completed. Now, DoD would place more reliance on R&D; new weapon systems would move into full-scale production only after technical, manufacturing, and operational risks had been minimized and performance verified. Furthermore, a new emphasis will be placed on modifying and upgrading existing weapon systems, rather than on building new systems concurrently with ongoing R&D efforts. R&D would be maintained for both basic research and exploratory development to ensure that prototypes of next-generation systems were available as needed, thereby maintaining force reconstitution capabilities.

With this new acquisition strategy in mind, we now summarize the FY93 budget for procurement and RDT&E.

### Aircraft

Various aircraft will not receive further funding in FY93. After receiving obligation authority for 39 F-15 Eagle aircraft in FY91 – FY92, the Air Force will not obtain further funding in FY93. The Air Force, however, continues RDT&E to produce an Advanced Tactical Aircraft (i.e., the F-22) in the early 2000s – replacing the F-15 air superiority fighter. Moreover, the Army would not obligate further funding for its AH-64 Apache aircraft; nor would the Navy for its F-14A/D Tomcat, AV-8B Harrier II, and E-2C Hawkeye aircraft. Although the Bush Administration proposed no procurement for the V-22 Osprey tilt-rotor aircraft, Congress authorized \$755 million (plus

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prior-year funding) for continued R&D; however, the Commandant of the Marine Corps is required to issue a report on the July 1992 crash of this aircraft before obligating more than 50 percent of the funds.

In contrast, the Air Force would receive obligation authority to procure the following four major types of aircraft:

- Eight C-17A aircraft to replace the aging C-141 for \$2.7 billion. (The Air Force's long-term plan still calls for purchasing 120 C-17A aircraft. However, Congress has placed restrictions on that procurement: contractors must repair fuel leaks under warranty provisions; a Special Defense Acquisition Board review of the program must be completed before FY94 funds can be obligated; and a Federally Funded Research and Development Center (FFRDC) must review its cost and operational effectiveness.)
- Four B-2 Stealth bombers for \$2.6 billion (Congress authorized 20 deployable B-2 bomber aircraft plus one test aircraft; 16 are in production now).
- Twenty-four F-16D Falcon aircraft (after obligating funding for 156 in FY91 and FY92).
- The Joint Surveillance Target Radar System (JSTARS) (E-3B) aircraft, which is designed to locate enemy ground forces operating behind the forward edge of the battle area, remains on schedule. \$700 million was allocated for FY93, including \$361 million for procurement of the first production model aircraft.

The Navy would obligate an additional \$1.8 billion to obtain 48 more F/A-18 Hornet aircraft – comparable to the funding levels obligated for FY91 and FY92. The Navy would also increase RDT&E funding by \$166 million for its AX aircraft (to replace the aging A-6 aircraft force).

## Communications and Electronics

Many communication and electronic systems will receive increased obligation authority for funding in FY93. For example, the Navy will receive further funding for Fleet satellite communications (\$326 million), the AN/BQQ sonar system (\$180 million), and the telephone exchange (\$81 million). The Army would procure information systems (\$66 million), defense satellite communication

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systems (\$112 million), and single-channel terminals (\$38 million). The Air Force would obligate more than \$1 billion to RDT&E for its Military Strategic and Tactical and Relay Satellite (Milstar) communications system.

## Missiles

Many missile procurements would be canceled or reduced substantially in FY93. For example, the Navy would obligate funding for 21 Trident II missiles in FY93, that is down 7 (from 28) in FY92 and down 31 (from 52) in FY91; under a new plan, only 400 Trident II nuclear warheads would be upgraded (to 475 kilotons), while the remaining 100 warheads would be the same as those carried by the Trident I missile (100 kilotons). The Navy's Advanced Air-to-Air Missile (AAAM) – the intended replacement for the long-range Phoenix missile in the Fleet air defenses – would be canceled; the AAAM, however, would still be funded for early stages of R&D.

The FY93 budget request also terminates the development of the Strategic Intercontinental Ballistic Missile (SICBM) (i.e., the "Midgetman" missile) the proposed new single-warhead missile. However, DoD plans to spend \$2.3 billion to improve the guidance system on existing Minuteman ICBMs and to extend their useful lives. Such modifications are consistent with the new acquisition strategy: if production of next-generation systems is to be slowed, it is important that existing systems be kept as modern and effective as possible.

The Air Force's advanced cruise missiles, the MX (the Peacemaker), and the Maverick (AGM-65D) would receive no further funding in FY93. After receiving funding to produce 60,000 multiple-launched rocket system (MLRS) rockets in FY91 and FY92, the Army would receive no further funding for this program in FY93. However, to retain the capability to strike targets located deep behind enemy lines, the Army has requested FY93 funding for 340 Army Tactical Missile Systems (ATACMS) missiles to cost of \$188 million.

## Ships

Funding of \$3.3 billion would be obligated to procure four more USS Arleigh Burke (DDG-51) Aegis class guided missile destroyers; in FY91 and FY92, more than \$7 billion was obligated to produce nine DDG-51s. Congress also authorized \$1.2 billion for an LHD-1 amphibious assault ship program. The second largest request in the FY93 shipbuilding program is \$832 million for the CVN-76, a new

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*Nimitz* class nuclear-powered aircraft carrier, which the Navy expects to begin constructing in 1995. In FY93, \$246 million would be obligated to procure two more MHC Coastal Mine Hunter ships. The *USS Seawolf* (SSN-21) attack submarine would not receive further procurement funding, but R&D would continue with modest funding levels.

## Tanks and Armored Vehicles

No additional funding is obligated to procure major tank and armored vehicles. After funding to procure 600 Bradley Fighting Vehicles and 240 M-1 Abrams tanks in FY91 (18 in FY92), only modifications to these programs would be funded in FY93. Again, such modifications are consistent with the new acquisition strategy. The Army would fund \$367 million to continue development of its Armored Systems Modernization program.

## Strategic Defense Initiative (SDI)

For FY93, DoD requested \$5.4 billion for funding the Strategic Defense Initiative (SDI) program, which was to afford protection against tactical, theater, and strategic missiles. However, Congress authorized \$4.0 billion for FY93, limited spaced-based interceptors, and separated theater missile defense (\$935 million) from SDI.

The 1991 Missile Defense Act refocuses the SDI on protecting against limited ballistic missile strikes. It provides for advanced defenses against shorter-range (tactical and theater) missiles by the mid-1990s and for a single site of 100 ground-based interceptors to defend against long-range (strategic) missiles by 1996. In January 1992, the Bush Administration proposed the development of a system for Global Protection Against Limited Strikes (GPALS), which is consistent with the Missile Defense Act and provides for deploying both ground-based and space-based (so-called "Brilliant Pebbles") interceptors. The FY93 budget requests include development of "other follow-on systems and research and support activities."

## Bush-Yeltsin Agreement

Some of the aircraft, missile, and other procurement requests could be affected by the recent Bush-Yeltsin agreement on strategic forces. On January 3, 1993, Presidents Bush and Yeltsin signed an agreement to reduce their respective strategic forces from 10,000 nuclear warheads currently (fewer with the Senate's recent ratification of the

Strategic Arms Reduction Treaty) to 3,000 to 3,500 nuclear warheads by the year 2003. The Bush-Yeltsin agreement could result in a downsizing of the nuclear weapons complex, a lowering of the Trident II missile procurement, and reduction of various Department of Energy and intelligence activities. Because some of those steps may be controversial, precise budgetary effects cannot be calculated now.

## DoD MANPOWER

The DoD active duty military end strength will be reduced by 25 percent from FY87 to FY97, with most of that reduction occurring by FY95 (see Table 1-4). As of the end of FY92, much of that reduction had already taken place. For example, preliminary counts of active military end strength at the end of FY92 were 367,000 below the 2.2 million in FY87, a decrease of 17 percent from the earlier force level. The drawdown plan calls for a 549,000 reduction in personnel from FY87 to FY97, which indicates that about 67 percent of the reductions are completed. FY92 end strength was 57,000 less than the authorized strength level, indicating that the Services are reducing their forces much more rapidly than planned.

The reduction in total military forces masks differences among the Services in the extent of the reductions. While the forces of each Military Service will be reduced, active duty Army and Air Force personnel will be reduced most deeply because they comprised the bulk of U.S. forces that were programmed in Europe to counter the Soviet threat. Navy and Marine Corps forces will be cut less because DoD has determined that their missions were not as oriented toward the Soviet threat in Europe. The FY87 through FY97 Military Service cuts are as follows:

- The Army active force will decline by 31 percent as the Army shrinks from 18 to 12 divisions.
- The active Air Force will be cut by 29 percent as its number of fighter-wing equivalents falls from 24 to 15.
- The active Marine Corps will decline by 21 percent, but its manning reductions and readjustments will take place within its current structure of three divisions.
- The Navy forces will be reduced by 15 percent as the number of carriers falls from 15 to 12 and other ships decrease to 451.

**TABLE 1-4****DoD Manpower Program, FY87 – FY97***(Fiscal year end strength in thousands)*

Personnel category	Actual								F A
	1987	1991 <sup>a</sup>	1992	1993	1994	1995	1996	1997	
<b>Active military</b>									
Army	781	725	610	599	557	536	536	536	
Navy	587	571	542	536	516	509	503	501	
Marine Corps	200	195	185	182	176	170	165	159	
Air Force	607	511	470	450	435	429	437	430	
Total active	2,175	2,002	1,808	1,767	1,685	1,644	1,640	1,626	
Percentage change	—	- 7.9	- 9.7	- 2.3	- 4.6	- 2.4	- 0.2	- 0.9	
<b>Selected Reserve<sup>b</sup></b>									
Army Reserve	314	300	303	258	234	229	229	229	
Army National Guard	452	441	427	383	346	338	338	338	
Naval Reserve	148	151	142	126	122	118	118	118	
Marine Corps	42	44	42	39	37	35	35	35	
Air Force Reserve	80	84	82	82	82	82	82	82	
Air National Guard	115	118	119	119	119	119	11	118	
Total Selected Reserve	1,151	1,138	1,115	1,007	940	921	921	921	
Percentage change	—	- 1.2	- 2.0	- 9.7	- 6.7	- 2.0	0	0	
<b>Civilian<sup>c</sup></b>									
Army	418	366	334	309	303	299	296	295	
Navy/Marine Corps	353	329	309	283	275	262	260	261	
Air Force	264	233	214	214	206	203	203	203	
Defense Agencies	98	117	149	151	149	148	147	146	
Total civilians	1,133	1,045	1,006	958	933	912	906	904	
Percentage change	—	- 7.8	- 3.7	- 4.9	- 2.5	- 2.1	- 0.8	- 0.1	

**Sources:** Various Secretary of Defense press releases, January 1992.<sup>a</sup> Active military reflects 17,059 National Guard/Reserve personnel on Gulf War duty and corresponding offsets to Guard/Reserves.<sup>b</sup> Selected Reserve includes active Guard/Reserve personnel.<sup>c</sup> Civilian includes foreign nationals.<sup>d</sup> The end strength increase for Defense agencies is caused primarily by the consolidation and shifting of contract auditing, supply depots creation of the Defense Commissary Agency and the Defense Finance and Accounting Service, and an increase in the On-Site Inspection Agen

Projected								
1995	1996	1997	FY87 - FY97 change		FY87 - FY92 change		FY92 - FY97 change	
			Amount	Percent	Amount	Percent	Amount	Percent
536	536	536	- 245	- 31	- 171	- 22	- 74	- 12
509	503	501	-86	- 15	- 45	-8	-41	- 8
170	165	159	-41	- 21	-15	-8	-26	- 14
429	437	430	- 177	- 29	-137	-23	-40	- 9
1,644	1,640	1,626	- 549	- 25	-367	-17	-182	- 10
- 2.4	- 0.2	- 0.9	—	—	—	—	—	—
229	229	229	- 85	- 27	- 11	- 4	- 74	- 24
338	338	338	- 114	- 25	-25	- 6	-89	- 21
118	118	118	- 30	- 20	-6	- 4	-24	- 17
35	35	35	- 7	- 17	0	0	-7	- 17
82	82	82	+ 2	+ 3	+ 2	+ 3	0	0
119	11	118	+ 3	+ 3	+ 4	+ 3	0	0
921	921	921	- 230	- 20	-36	- 3	-194	- 17
- 2.0	0	0	—	—	—	—	—	—
299	296	295	- 123	- 29	- 84	- 20	- 39	- 12
262	260	261	- 92	- 26	-44	- 13	- 48	- 16
203	203	203	- 61	- 23	-50	- 19	-11	- 5
148	147	146	+ 48	+ 49 <sup>d</sup>	-51	+ 52	-3	-2
912	906	904	- 229	- 20	-127	- 11	-102	- 10
- 2.1	- 0.8	- 0.1	—	—	—	—	—	—

ding offsets to Guard/Reserves.

ng of contract auditing, supply depots, and inventory control points from the Services to the Defense Logistics Agency, the  
ncrease in the On-Site Inspection Agency civilian end strength.

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Selected Reserve end strength under the drawdown plan will also decline, falling from 1.15 million in FY87 to about 920,000 in FY97, a decrease of 20 percent. The Army National Guard and Army Reserve strength would decline by 26 percent, from 766,000 in FY87 to about 567,000 in FY97. Most of the units cut from the Army National Guard and Reserve are associated with the elimination of active Army Divisions. Navy and Marine Corps reservists will be cut by about 20 percent from FY87 to FY97. In contrast, the Air Force Reserves and Air National Guard force levels would virtually be unchanged as many active Air Force missions, such as tanker support, would be shifted to the Air Force's Selected Reserves. It should be noted, however, that Reserve Component manpower levels remain higher than planned, as Congress indicates its unwillingness to reduce reserve strength as sharply as the active forces.

Civilian employment in DoD is projected to decline by more than 229,000, or 20 percent, between FY87 and FY97. Department of the Army civilian personnel would decline by 29 percent, Navy/Marine Corps civilians by 26 percent, and Air Force civilians by 23 percent. In contrast, end strength for the Defense agencies would increase by 48,000 (49 percent) – primarily because some logistics functions would be shifted from the Services to the Defense Logistics Agency (e.g., supply depots) and to newly created agencies such as the Defense Commissary Agency and the Defense Finance and Accounting Service.

## Location of Manpower Reductions – United States Compared with Overseas

In Table 1-5, we show the allocation of active military personnel drawdowns between overseas and U.S. locations. That table shows a disproportionate share of the reductions occurring overseas. The data indicate that the economic impact of the drawdown on communities in the United States will be less than would be predicted simply by looking at the size of the drawdown without regard to where those reductions take place. However, the aggregate numbers mask the job shifts that will occur in the United States. Some U.S. localities will experience large reductions in military and civilian jobs, others will have small reductions, and yet others will experience employment increases. This mixed picture argues for analyzing job loss data on a state and local basis; such analyses are present in other reports prepared by LMI.

Although less than one-quarter of active duty military personnel were located overseas in FY87, a decrease of 277,000 persons – more



**TABLE 1-5**

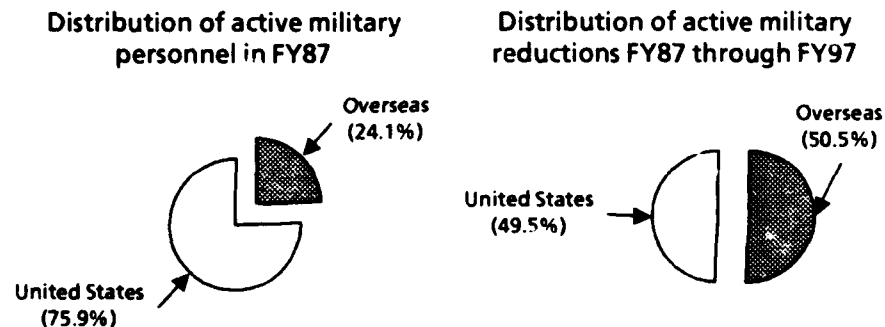
*DoD Employment of Active Force Military – United States Versus Overseas (End of fiscal year, in thousands)*

	Actual		Planned		FY87 – FY92 change		FY92 – FY97 change		FY87 – FY97 change	
	FY87	FY91	FY92 <sup>a</sup>	FY97	No.	%	No.	%	No.	%
United States <sup>b</sup>	1,651	1,608	1,490	1,379	-161	-10	-111	-7	-272	-16
Overseas	524	394	318	247	-206	-39	-71	-22	-277	-53
Total	2,175	2,002	1,808	1,626	-367	-17	-182	-10	-549	-25

<sup>a</sup> Information on the location of personnel in FY92 is not yet available, so actual end strength was allocated according to the Service's billet files.

<sup>b</sup> Includes U.S. territories and possessions.

than half of DoD's total reduction – will occur in locations outside the United States<sup>5</sup> (see Figure 1-2). In fact, although the number of military personnel overall will fall by 549,000 or 25 percent during this decade, military jobs in the United States will fall by only 272,000 (16 percent). Of the overseas reductions, more than half will come from cuts in active Army deployments, with the remaining reductions spread over the other three Services.

**FIGURE 1-2**

*Location of Reductions for Active Military Personnel*

Civilian DoD personnel at overseas locations will also bear a disproportionately greater reduction than those in the United States. However, unlike forecasts of active military reductions, we are unable

<sup>5</sup>The data for FY87 and FY91 refer to the location of personnel at the end of the fiscal year, while the data for the other years refer to the location of billets.

to determine precisely where all of the civilian job reductions will take place. DoD civilian employment of U.S. citizens will fall by about 85,000 from FY92 to FY97 (a drop of 9 percent) but some of those job cuts will occur overseas.

To estimate the number of jobs that will be lost in the United States, we examined the recent history of DoD employment of U.S. citizens and DoD's current plans for reducing its employment of foreign nationals. In recent years, about 5 percent of the U.S. citizens employed by DoD worked overseas. In fact, DoD employment overseas is dropping more rapidly than in the United States, so we would expect the number of U.S. citizens working overseas to fall more rapidly in the near future, too. If the number of U.S. citizens and foreign nationals employed overseas decreased at the same rate, only 3.5 percent of U.S. citizens would be overseas by FY97. Therefore, the percentage of U.S. citizens employed overseas in the next few years could plausibly range between 3.5 and 5 percent. We use 4 percent to allocate U.S. citizen employment overseas, as shown in Table 1-6.

**TABLE 1-6**

*DoD Employment of Civilians – U.S. and Foreign Locations  
(End fiscal year in thousands)*

Location	Actual			Planned	FY87 – FY92 change		FY92 – FY97 change		FY87 – FY97 change	
	FY87	FY91	FY92	FY97	No.	%	No.	%	No.	%
United States <sup>a</sup>	955	893	886	840	-69	-7	-82	-9	-151	-16
Overseas	178	151	120	100	-58	-33	-20	-17	-78	-44
U.S. citizens	54	47	37 <sup>b</sup>	34 <sup>b</sup>	-17	-31	-3	-8	-20	-37
Foreign nationals	124	104	83	66	-41	-33	-17	-21	-58	-46
Total	1,133	1,045	1,006	904	-127	-11	-102	-10	-229	-20

*Note:* Column totals may not add due to rounding.

<sup>a</sup> Includes U.S. territories and possessions.

<sup>b</sup> Estimated.

On the basis of these calculations, Table 1-6 shows that domestic DoD civilian employment is expected to fall by 82,000 from FY92 to FY97 – a decline of 9 percent – and employment of U.S. citizens and foreign nationals overseas is expected to fall by 17 percent. Consequently, about 20 percent of the employment reduction during FY92 – FY97 will take place overseas, even though overseas workers

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accounted for only 12 percent of DoD civilian employees in FY92. Moreover, by FY97, foreign nationals will comprise only 7 percent of the civilian work force, down from 11 percent in FY87. During the entire drawdown period from FY87 to FY97, DoD civilian employment in the United States will fall by 16 percent but jobs worldwide will decrease by 20 percent.

## CONCLUSIONS

During the next several years, defense spending will decrease sharply unless there are major changes in the world political and military situation. With a changed emphasis in the national military strategy, the mix of spending will also change, with spending on procurement dropping the largest amount. Employment by DoD of both active military and civilians will fall, although the impact will be mitigated somewhat in the United States because much of the reduction in jobs will occur overseas. Nonetheless, the adjustments faced by military planners, defense personnel, and military contractors will be challenging because of the magnitude of the changes. While much of the drawdown has already taken place, the uncertain budgetary climate makes the magnitude of the size of the drawdown difficult to predict, and even more difficult to plan for.

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## CHAPTER 2

# DoD Manpower Reductions and Separations

## INTRODUCTION

As shown in the previous chapter, the U.S. military is expected to reduce the size of its active duty uniformed forces by about 25 percent between FY87 and FY97. To identify problems and solutions associated with the force drawdown, we examined the impact of the force reductions on the number of personnel separations from active duty. These forecasts show what the U.S. economy must absorb during the next several years. Estimates of the annual flow of separations from the active forces will be used to place the force drawdown in historical perspective and to identify the potential demands for assistance programs operated by Federal, state, and local governments.

The objectives of this discussion are to determine the magnitude of active duty separations and compare them to the annual separations from years immediately prior to the large drawdown. Comparisons with the private labor market will also be made in order to evaluate the relative difficulty of finding employment during the drawdown period versus finding employment during the years before the large force reductions were initiated.

The current drawdown plan calls for a total active duty personnel cut of 549,000 from FY87 through FY97. By the end of FY92, 67 percent of the planned 25 percent reduction in active duty military end strength was already completed. Active military end strength by the end of FY92 was 1.8 million, compared with 2.2 million at the end of FY87, a decrease of 367,000 people (17 percent).

The magnitude of the force reductions has led to concerns that there may be an unusually large number of separated active duty military personnel entering the labor market during the remaining drawdown years. However, because the force reductions will be made using both separations and reduced accessions, the increase in active military separations is not necessarily directly proportional to the size of the

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personnel drawdown. It is therefore necessary to examine the personnel plans of the Military Services in detail to understand how separations from active duty will vary during the next several years.

For the purposes of determining potential assistance requirements, it would be useful to know the approximate skills and experience of the Service members returning to civilian life. Providers of assistance and retraining in local communities would benefit from as much detailed information about the potential need for their services. Although it would be helpful to obtain estimates of separations by occupation and geographic area, reliable information at that level of detail is unfortunately unavailable.<sup>1</sup>

Most active duty separations have been voluntary, and we expect they will remain primarily voluntary even during the drawdown period. Therefore, it is extremely difficult to predict which individuals will actually depart. While the Services will manage the drawdown so that the match between skill requirements and inventory is maintained or improved, implementing that goal is difficult because forecasts of separations by occupational skill are hard to make. We have obtained estimates of separations by years of service, which is a good indicator of the age and experience levels of those individuals entering the civilian labor market. Such information will give some indication of the potential employability and retraining needs of separated military personnel.

## ACTIVE DUTY SEPARATIONS DURING THE DRAWDOWN

As part of their force structure planning, each Military Service annually builds a detailed personnel plan that is designed to achieve its manpower goals and requirements. Those plans are structured to meet the short-term objectives of meeting manpower requirements and satisfying budgetary and legal constraints. The plans are also used to attain longer-term manpower goals, such as balancing accessions, retention, and promotions in order to meet changing force structure requirements.

In constructing the personnel plans, the Services estimate the number of accessions, separations, promotions, and retirements that

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<sup>1</sup>Information on the local impact of the drawdown can be found in LMI Report DC201R6, *A Method for Estimating Local Impacts of Cuts in Defense Spending*.

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will occur. The forecasts are based on the policies that are expected to be in place; historical retention rates are used to develop baseline estimates of end strength. The plans then incorporate the availability of bonuses and special pay as additional incentives to match personnel inventories with requirements.

The end product of the planning process is the development of a detailed description of the future personnel inventory by grade and experience for each year in the planning horizon. The most recent personnel plans of the Services cover FY93 through FY97. Of particular interest is the estimated number of separations the personnel plans report for each year through FY97. The projected losses reflect the efforts of the Services to implement their drawdown plans that were started in recent years and that will be continued throughout the drawdown period. Therefore they provide the best estimates of how many military members will be leaving the Services annually. The detail in the plans makes it possible to analyze the potential effect of different levels of service member experience, as measured by their years of service (YOS). The plans also predict the number of departing Service members expected to receive some type of separation or retirement pay (based on existing legislation).

Table 2-1 lists all of DoD's actual and planned personnel separations (including retirements) through FY97. Data for 1992 and earlier are actual separations and are provided as a basis for comparison. The data for 1993 through 1997 are the Services best available forecasts. The forecasts lead to a number of surprising conclusions.<sup>2</sup> The number of annual separations actually peaked in FY92 and they are expected to fall sharply through FY97. In fact, by FY94 the expected annual number of separations is predicted to be well below the levels of FY87 and FY89, before the large force drawdown began. Consequently, the overall demand for transition assistance from separated personnel will actually be less in the next several years than it was in the 1980s, when the availability of financial and other transition assistance was much less. Well-designed transition programs, however, will remain valuable even with a lower number of separations.

Even during the peak personnel separation years of FY92 and FY93, the increase in personnel departures will not be that much

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<sup>2</sup>The relatively small number of separations in FY91 is attributable to the personnel policies used by the Services to meet the requirements of Operations Desert Shield and Desert Storm. FY92 separations, therefore, are much higher than they would have been if those personnel actions had not occurred.

**TABLE 2-1***Actual and Planned Active Force Military Separations FY87 to FY97*

Service	Actual (000s)				Projected (000s)				
	FY87	FY89	FY91	FY92	FY93	FY94	FY95	FY96	FY97
<b>Total</b>									
Army	141	133	106	182	135	113	109	98	107
Air Force	66	58	63	77	75	61	51	52	51
Navy	90	98	83	87	94	86	77	75	74
Marine Corps	37	37	35	43	40	39	35	33	33
<b>Total</b>	<b>334</b>	<b>326</b>	<b>287</b>	<b>389</b>	<b>345</b>	<b>299</b>	<b>272</b>	<b>258</b>	<b>265</b>
<b>Enlisted</b>									
Army	131	124	99	168	122	104	100	89	100
Air Force	57	49	54	66	63	52	44	46	44
Navy	84	91	76	81	86	77	69	67	67
Marine Corps	35	35	34	41	38	37	33	31	31
<b>Total</b>	<b>308</b>	<b>299</b>	<b>262</b>	<b>356</b>	<b>310</b>	<b>270</b>	<b>246</b>	<b>233</b>	<b>243</b>
<b>Officer</b>									
Army	9	9	7	13	13	9	9	9	7
Air Force	8	9	9	11	12	9	7	6	7
Navy	6	7	7	6	8	8	8	7	7
Marine Corps	2	2	2	2	2	2	2	2	2
<b>Total</b>	<b>26</b>	<b>27</b>	<b>25</b>	<b>33</b>	<b>35</b>	<b>29</b>	<b>26</b>	<b>25</b>	<b>23</b>

**Sources:** Actuals for FY87 to FY92 were provided by OSD(FM&P). Projections for FY93 and beyond come from memoranda from the Military Departments to the Deputy Assistant Secretary of Defense (Military Manpower and Personnel Policy) dated: Army - 15 June 1992; Navy - 29 June 1992; Air Force - 29 June 1992.

**Note:** Column totals may not add due to rounding.

greater than in the late 1980s. For example, the peak year of separations, FY92, had about 63,000 more separations from active duty than in FY89 (for an increase of approximately 19 percent). Predicted FY93 separations are about 19,000 more than the FY89 level. While these increased separations create a force management challenge for the Services, they are negligible compared to typical job turnover in the U.S. labor market with its labor force of over 127 million.

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Estimates of planned numbers of separations must be used with caution because they are a "best snapshot" of a dynamic process. This inevitably leads to some inaccuracy. This forecasting problem is aggravated further during a period of rapid force reductions of uncertain magnitude. Consequently, the separation forecasts presented in this section should be viewed as rough estimates based on recent personnel plans and budget projections. Future force plans and actual force sizes are unlikely to coincide exactly with those planned for in FY92.

The relatively small variation in the total number of separations obscures the changing mix of separations occurring during this time period. The number of active duty separations by years of service (YOS) for all four Military Services is shown in Table 2-2. Because accessions have been falling sharply in recent years, the number of junior force separations — those with 1 to 6 years of service — is falling more rapidly than force members with higher experience levels. The total number of career force separatees — those with 7 to 20 YOS — is expected to remain high in FY93 and FY94. Separations in the 7 to 20 YOS category were 68,000 in FY89, and were about 110,000 in FY92. The number of personnel departing with more than 20 YOS will also remain relatively higher throughout the drawdown period. In FY92, the peak year for retirement losses, the increase was about 20,000 separations over the 1989 level.

The changing composition of separations is shown more directly in Table 2-3, which lists the percentage distribution of separations. In FY87, junior personnel with 1 to 6 YOS made up 72 percent of all separations. This percentage fell to 58 percent in FY92 and is expected to rise slightly thereafter to 63 percent in FY97. At the same time, the proportion of separations in the careerist group with 7 to 20 YOS will grow from 19 percent of all separations in FY87 to 28 percent in FY92, before falling back to 22 percent by FY97. The percentage of losses due to retirement will grow throughout the drawdown years, increasing from 9 percent of separations in FY87 to 15 percent in FY95 and later years.

Table 2-3 clearly demonstrates the change in the mix of separations, as fewer junior personnel depart and larger numbers of more experienced Service members leave. The primary reason for this somewhat unexpected result is shown in Table 2-4, which lists actual and planned accessions for the same time period. Table 2-4 shows that total DoD accessions fell from 338,000 in FY87 to 222,000 in FY92, a drop of approximately one-third. The sharp drop in accessions, when combined with the typically high turnover of military personnel, reduces separations in FY93 and beyond. In large part, the Services



**TABLE 2-2****All Active Military Separations by YOS**

YOS	Actual separations (000s)				Projected separations (000s)				
	FY87	FY89	FY91	FY92	FY93	FY94	FY95	FY96	FY97
<b>Total</b>									
YOS 1 - 6	239	224	182	225	210	178	163	161	167
YOS 7 - 20	65	68	78	110	86	79	68	58	58
YOS 20+	29	34	27	54	48	42	42	39	41
<b>Total</b>	<b>334</b>	<b>326</b>	<b>287</b>	<b>389</b>	<b>345</b>	<b>299</b>	<b>272</b>	<b>258</b>	<b>265</b>
<b>Enlisted</b>									
YOS 1 - 6	231	217	175	217	203	172	157	156	163
YOS 7 - 20	54	56	65	96	68	64	55	46	47
YOS 20+	23	26	21	43	39	34	34	31	33
<b>Total</b>	<b>308</b>	<b>299</b>	<b>262</b>	<b>356</b>	<b>310</b>	<b>270</b>	<b>246</b>	<b>233</b>	<b>243</b>
<b>Officers</b>									
YOS 1 - 6	8	7	7	8	7	5	5	5	5
YOS 7 - 20	11	12	12	14	19	15	13	11	11
YOS 20+	6	8	7	11	9	8	8	8	7
<b>Total</b>	<b>26</b>	<b>27</b>	<b>25</b>	<b>33</b>	<b>35</b>	<b>29</b>	<b>26</b>	<b>25</b>	<b>23</b>

**Notes:** Data prior to FY93 are based on the distribution of separations by YOS as reported in the June 1992 Service personnel plans and total separations by year provided by OSD(FM&P). The separation numbers for FY93 through FY97 are taken directly from the Service personnel plans. FY91 separation data in the personnel plans include some Operations Desert Shield and Desert Storm reserve separations and are therefore misleading.

Column totals may not add due to rounding.

have already executed a major portion of the drawdown plan. This has occurred through a reduction in accessions to about the level needed to sustain the FY97 force structure, combined with mostly voluntary separations of more experienced personnel to ensure that the inventory balances with the manpower requirement.

**TABLE 2-3**  
*Distribution of DoD Separations by YOS*

YOS	Actual separations (percent)				Projected separations (percent)				
	FY87	FY89	FY91	FY92	FY93	FY94	FY95	FY96	FY97
<b>Total</b>									
YOS 1 - 6	72	69	63	58	61	59	60	62	63
YOS 7 - 20	19	21	27	28	25	26	25	22	22
YOS 20+	9	10	10	14	14	14	15	15	15
<b>Enlisted</b>									
YOS 1 - 6	75	73	67	61	66	64	64	67	67
YOS 7 - 20	17	19	25	27	22	24	22	20	19
YOS 20+	7	9	8	12	13	12	14	13	14
<b>Officers</b>									
YOS 1 - 6	31	26	28	24	21	19	20	22	21
YOS 7 - 20	44	45	46	44	53	52	49	46	48
YOS 20+	25	29	26	32	27	29	31	32	32

**Note:** Data prior to FY93 are based on the distribution of separations by YOS as reported in the June 1992 service personnel plans and total separations by year provided by OSD(FM&P). The separations for FY93 through FY97 are taken directly from the service personnel plans.

Columns may not add due to rounding.

## VOLUNTARY AND INVOLUNTARY SEPARATION PAY

To manage the drawdown efficiently and fairly, DoD requested and received authorization and funding for the Voluntary Separation Incentive (VSI) and Special Separation Benefit (SSB) programs. With these new force management tools, the Services can better avoid involuntary separations and, at the same time, realign their inventories in accordance with their new, smaller force structures.

The Services report that the new voluntary separation pays have been successful in helping them achieve most of their personnel reduction objectives. Although the number receiving voluntary separation pay is not a very large fraction of all separations, such pay is important for Service members with 7 to 20 YOS. Those personnel had aspirations for spending a career in the military, but they now face reduced promotion opportunity and possible reductions in force (RIFs).

**TABLE 2-4****Active Military Accessions, FY87 Through FY97**

Service	Actual accessions (000s)				Projected accessions (000s)				
	FY87	FY89	FY91	FY92	FY93	FY94	FY95	FY96	FY97
<b>Total</b>									
Army	141	130	85	84	90	68	85	79	104
Air Force	62	51	35	40	44	36	36	52	42
Navy	98	101	73	65	71	63	63	68	69
Marine Corps	37	36	32	33		33	29	27	27
<b>All DoD</b>	<b>338</b>	<b>319</b>	<b>225</b>	<b>222</b>	<b>237</b>	<b>202</b>	<b>213</b>	<b>226</b>	<b>243</b>
<b>Enlisted</b>									
Army	133	121	78	78	83	62	78	73	97
Air Force	55	43	30	35	39	32	32	44	38
Navy	91	94	66	58	64	58	56	61	62
Marine Corps	35	34	30	32	32	31	27	26	26
<b>All DoD</b>	<b>314</b>	<b>292</b>	<b>204</b>	<b>203</b>	<b>218</b>	<b>182</b>	<b>193</b>	<b>204</b>	<b>223</b>
<b>Officers</b>									
Army	8	9	7	6	7	7	7	7	7
Air Force	7	8	5	5	5	5	5	7	5
Navy	7	8	7	7	6	6	7	7	7
Marine Corps	2	2	2	2	2	2	2	1	1
<b>All DoD</b>	<b>24</b>	<b>27</b>	<b>21</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>20</b>	<b>22</b>	<b>20</b>

**Note:** Column totals may not add due to rounding.

Separating personnel receiving involuntary separation pay will also persist throughout the drawdown period; at about 16,000 separations in FY92, they were about 4 percent of all separations. The majority of these involuntary separations are unrelated to the drawdown. Active military members with 6 to 20 YOS (and ineligible for retirement) may be qualified to receive involuntary separation pay under some circumstances. The separation pay is provided as a lump sum that increases with YOS and base pay. The Service Secretaries may reduce the amount of involuntary separation pay if they believe the circumstances justify such action.

As Table 2-5 shows, the number of career separations receiving voluntary separation pay is high. In FY92, about three-quarters of DoD active duty separatees with 7 to 20 YOS received some type of separation pay, such as VSI, SSB, or involuntary separation pay. This percentage will gradually fall as the drawdown progresses and the Services align their personnel inventories with the base force requirements.

**TABLE 2-5**

*Active Military Separatees Receiving Financial Payments*

Service	VSI/SSB recipients	Involuntary pay recipients
Army	31,400	9,900
Air Force	28,500	3,948
Navy	4,100	178
Marine Corps	1,000	2,268
Total	65,000	16,294

Source: June 1992 service personnel plans and OSD (FM&P).

The VSI separation payment is determined by a formula, with the annual payment equal to 2.5 percent of the Service member's base pay multiplied by the member's years of active duty. Payments are made annually for two times the number of years of active service. The SSB payment is paid in a single, lump sum that is equal to 15 percent of the Service member's annual base pay times the number of years of active service. A few examples of typical VSI and SSB payments are shown in Table 2-6.

**TABLE 2-6**

*Financial Payments from VSI and SSB*

Paygrade and experience	VSI	SSB
E5 with 10 YOS	\$4,290 for 20 years	\$25,742
E6 with 14 YOS	\$7,129 for 28 years	\$42,774
O3 with 9 YOS	\$7,703 for 18 years	\$46,219
O4 with 14 YOS	\$14,640 for 28 years	\$87,840

The VSI and SSB programs are designed to provide only temporary assistance to the Services in managing the drawdown. These programs

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are slated to expire in 1995. (Anniversary payments to VSI recipients will continue for another couple of decades, however.) SSB has been the most popular choice among departing Service members, with more than 80 percent opting for the lump-sum SSB payment.

It is also important to note that while the number of losses due to military retirement is predicted to be higher during the drawdown years than in earlier years, every retiring Service member will be eligible for military retirement benefits. This financial benefit is substantial and provides recipients with some income security that will be of immense value if and when they search for employment.

VSI, SSB, Involuntary Separation Pay, and retired pay are important sources of financial benefits available to departing Service members during the drawdown period. DoD, other agencies of the Federal Government, and state and local governments also have a wide variety of new and existing transition programs that are designed to smooth the transition to civilian life for officers and enlisted personnel leaving active duty.<sup>3</sup>

## DoD CIVILIAN SEPARATIONS

As shown in Chapter 1, DoD civilian employment will be decreasing during the next several years, although not by nearly as much as for active military personnel. From FY92 to FY97, DoD civilian employment is expected to decrease by about 102,000; of that number, about 82,000 jobs will be held by U.S. citizens located in the United States.

Unlike the active duty military, the DoD civilian employment system is decentralized. Essentially, each Military Service operates independently of the other Services, as well as of other Federal Government agencies. However, the Services are still subject to Office of Personnel Management (OPM) regulations and guidelines, and must coordinate with other agencies on specific issues. The decentralized nature of DoD civilian employment makes it more difficult to quantify the potential employment and separation effects of the drawdown. This difficulty is exacerbated when we consider that the employment reductions will occur at specific locations. This implies that while some locations – and DoD overall – will lose jobs, some other locations will experience an increase in employment. Unlike active duty military personnel, who are readily transferred when job losses occur, DoD

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<sup>3</sup>LMI Report DC201R3, *Compendium of Programs to Assist the Transition*, discusses these sources of assistance.

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civilians hold positions at a particular location and are not assured employment at other installations even if openings are available. Displaced civilian employees do, however, have certain transfer rights and opportunities if they can qualify for job openings. Consequently, it is virtually impossible to predict with much accuracy the number of DoD civilian employees that will be involuntarily dismissed.

Despite these difficulties, some estimates of potential reductions-in-force (RIFs) have been made. DoD unofficially estimates that there will be about 5,000 RIFs annually during the next several years. The Congressional Budget Office, using a slightly different analytical approach, also concludes that there will be about 5,000 RIFs per year during the remainder of the drawdown. During FY91, 4,550 DoD civilians were terminated by a RIF, a year in which DoD civilian employment fell by approximately 29,000. Since the 29,000 figure is comparable to the average annual reductions expected each year for the next several years, the estimate of about 5,000 RIFs per year appears reasonable.

## CONCLUSIONS: THE DRAWDOWN IN A NATIONAL ECONOMIC PERSPECTIVE

The number of separations from the Military Services is very small in comparison with the size of the U.S. labor force. Even in the peak separation year of 1992, the 391,000 separations were a minuscule fraction of the entire civilian labor force of 127 million. As the economy grew after the recession, the unemployment rate fell to 7.2 percent in November 1992 and civilian employment was at 118 million. Table 2-7 shows recent historical data on civilian labor force growth, unemployment rates, and separations from active duty. Although the number of separations in each of the years shown was only 0.3 percent of the entire labor force, the unemployment rates clearly reflect the more difficult labor market facing veterans in 1992. This does not prove that the transition to civilian life was easy for all separating Service members in earlier years. It does show, however, that the drawdown is relatively small when viewed from a national perspective. The increased separations represent only a small increase in the normal volume of active duty military separations.

In the years before the drawdown, the U.S. economy easily absorbed well over 300,000 active duty military separatees annually. An increase of less than 100,000 in the number of annual separations is virtually too small to be detected in national labor force statistics. Therefore, the U.S. economy should be able to absorb quickly

**TABLE 2-7*****Military Separations and the U.S. Labor Market***

Year	Labor force (thousands)	Separations from active duty (thousands)	Unemployment rate (percent)
1987	119,900	337	6.2
1989	123,900	328	5.3
1992	127,200	391	7.2

**Note:** Labor market data for 1992 are from November of that year; data for the other years are annual averages.

separates from the Services throughout the next several years. In fact, historical experience indicates that civilian employers are eager to hire skilled, experienced personnel such as those leaving the military.

While it is likely that the economy will absorb the small increase in separations this year and next, some local labor markets may experience imbalances that will affect the ability of veterans to find jobs. This is especially likely to occur in those localities experiencing cutbacks and in which civilian employment has been heavily dependent on defense industry and military installations. In those instances, departing Service members may not be able to find employment in their locality of first choice. Transition programs that help separates find employment in other parts of the country and assist them in moving will be particularly useful for those localities.

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## CHAPTER 3

# Private-Sector Employment Loss from Reduced Defense Spending

## INTRODUCTION

The objective of this chapter is to estimate the aggregate gross number of private-sector jobs that are likely to be lost between 1992 and 1997 as a result of reduced DoD spending. The analysis broadly defines defense-related private-sector employment to include jobs with defense prime contractors, major defense subcontractors, and other private-sector suppliers to private defense producers. The impact of DoD spending reductions on small business is explained in another LMI report.<sup>1</sup>

This chapter focuses on *gross* job losses in the private sector rather than on net job losses to the U.S. macroeconomy as a whole. Gross job losses are those that result from decreased purchases of goods and services by DoD. Those losses do not include “induced” job losses resulting from further rounds of decreased spending (i.e., multiplier effects), nor do they include any potential salutary employment effects from lower interest rates caused by decreased defense spending. Depending upon the assumptions made and the time frame considered, net job losses can be larger or smaller than gross job losses.

The analytical structure of this chapter can be summarized briefly. The first step is to assess DoD’s outlay of funds for the purchase of goods and services from the private sector. Then we estimate the number of workers necessary to produce those goods and services. Over time, decreasing DoD outlays for domestic goods and services will result in a decreased number of private-sector defense-related jobs. Aggregate DoD outlays of funds are projected to decline in real terms by

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<sup>1</sup>See LMI Report DC201RD1, *Effects of the DoD Drawdown on Small Business*.



23.0 percent between 1992 and 1997, while private-sector defense employment is likely to decline by approximately 803,000 jobs (i.e., 27 percent) during the same time frame. This disproportionate decrease in private-sector defense-related jobs is the result of a shift in the composition of DoD fund outlays away from procurement.

Table 3-1 compares this result with the DoD employment reductions in the President's FY93 revised budget. Private-sector jobs resulting from decreased defense spending are projected to fall by 803,000 from FY92 to FY97; military and civilian DoD employment losses are projected to be 283,000 jobs. On a relative basis, private-sector jobs from reduced defense spending fall by 27 percent compared with a fall of 10 percent for DoD employment. For both sectors, most of the job losses occur by 1995; employment stabilizes and remains about level beyond 1995.

**TABLE 3-1**

*Summary of DoD and Private-Sector Job Reductions (000s)*

	1991	1992	1995	1997	1992-1997	
					Decrease in number of jobs	Percent decrease
Active military end strength	2,002	1,808	1,644	1,626	182	10
DoD civilians end strength	1,045	1,006	913	905	101	10
Subtotal: DoD employment	3,047	2,814	2,557	2,531	283	10
Private-sector defense workers	3,095	2,934	2,307	2,131	803	27

*Note:* "End strength" is the number of personnel employed at the end of the fiscal year.

## DoD FUNDS USED FOR PROCUREMENT

DoD outlays are used in two principal ways: (1) to pay active duty military personnel, selected reserve military personnel, DoD civilian workers, and DoD retirees; and (2) to purchase goods and services from the private sector. For this analysis, our task to estimate DoD outlays flowing directly and indirectly to firms that produce defense-related goods and services (G&S); assessing the amount of DoD funds spent in

the private sector allows us to determine the approximate number of private-sector defense-related workers needed to supply those goods and services to DoD.

There are five major DoD budget subcategories: military personnel; operations and maintenance (O&M); procurement; research, development, test, and evaluation (RDT&E); and military construction and family housing (MILCON). A fraction of the budgeted outlays is spent on the pay and benefits received by present and former DoD employees. The remaining portion is used to purchase goods and services from the private sector. Qualitative estimates of the composition of defense outlays are shown in Table 3-2.

**TABLE 3-2**

*Composition of Defense Fund Outlays by Program  
(General amounts)*

Program	Pay and benefits	Goods and services
Military personnel	High	Low
O&M	Medium	Medium
Procurement	Low	High
RDT&E	Low	High
MILCON	Low	High

Source: Thomas P. Frazier, et al, *The Revised Defense Translator*, Institute for Defense Analyses, IDA Paper P-2141, October 1989.

Table 3-3 shows that there is substantial variation among specific DoD program outlays as a percentage of total defense outlays between FY87 and FY97. The only change in DoD outlays is a significant decrease in procurement spending.

The preceding observations help one to interpret Table 3-4. The shift in the composition of military spending away from procurement toward the other four categories will result in a decrease in the proportion of DoD outlays spent on private-sector goods and services and a corresponding increase in the proportion of outlays spent on pay and benefits for DoD military and civilian employees.

**TABLE 3-3**

*Distribution of DoD Fund Outlays by Type of Program  
(Percent)*

Type of program	FY87 spending distribution	FY97 spending distribution
Military personnel	26.3	27.5
O&M	27.8	32.5
Procurement	29.5	22.4
RDT&E	12.3	13.4
MILCON	3.2	3.8
Other	0.9	0.4
Total	100.0	100.0

Source: National Defense Budget Estimates for FY93, OSD Comptroller, March 1992.

**TABLE 3-4**

*Aggregate Composition of DoD Outlays by Spending Category  
(Percent)*

Spending category	FY87 spending distribution	FY97 spending distribution
Pay and benefits	38.7	44.1
Goods and services	61.3	55.9
Total	100.0	100.0

Source: National Defense Budget Estimates for FY93, OSD Comptroller, March 1992.

## NUMBER OF U.S. PRIVATE-SECTOR JOBS DEPENDING ON DoD PURCHASES

The remainder of our analysis is technically straightforward and follows the outline of Table 3-5.

Defense Department spending on goods and services as a share of total outlays will decline from 59.3 percent in FY91 to 55.9 percent in

TABLE 3-5

*Private-Sector Labor Impacts from Decreased DoD Outlays for Goods and Services*

Spending category	1987	1991	1992	1993
Goods and services (G&S) ÷ outlays	61.3%	59.3%	59.6%	57.9%
DoD outlays (billions of 1993 dollars)	\$339.6	\$324.0	\$305.6	\$278.3
DoD G&S outlays (billions of 1993 dollars)	\$208.1	\$192.1	\$182.1	\$161.1
DoD domestic G&S outlays (billions of 1993 dollars)	\$197.8	\$182.6	\$173.1	\$153.2
U.S. private-sector workers producing defense goods and services				
Value added per worker (1993 dollars)	1987	1991	1992	1993
\$54,000	3,662,987	3,381,315	3,205,313	2,836,245
\$55,000	3,596,387	3,319,837	3,147,034	2,784,677
\$56,000	3,532,166	3,260,554	3,090,837	2,734,951
\$57,000	3,470,198	3,203,351	3,036,612	2,686,969
\$58,000	3,410,367	3,148,121	2,984,256	2,640,642
<b>\$59,000</b>	<b>3,352,564</b>	<b>3,094,763</b>	<b>2,933,676</b>	<b>2,595,886</b>
\$60,000	3,296,688	3,043,184	2,884,781	2,552,621
\$61,000	3,242,644	2,993,296	2,837,490	2,510,775
\$62,000	3,190,343	2,945,017	2,791,724	2,470,278
\$63,000	3,139,703	2,898,270	2,747,411	2,431,067
\$64,000	3,090,645	2,852,985	2,704,482	2,393,082
Projected change in employment				
Value added per worker (1993 dollars)		1987 - 1992	1991 - 1992	1992 - 1993
\$54,000		(457,674)	(176,003)	(369,067)
\$55,000		(449,353)	(172,803)	(362,357)
\$56,000		(441,329)	(169,717)	(355,886)
\$57,000		(433,586)	(166,740)	(349,643)
\$58,000		(426,110)	(163,865)	(343,614)
<b>\$59,000</b>		<b>(418,888)</b>	<b>(161,087)</b>	<b>(337,790)</b>
\$60,000		(411,907)	(158,403)	(332,160)
\$61,000		(405,154)	(155,806)	(326,715)
\$62,000		(398,619)	(153,293)	(321,446)
\$63,000		(392,292)	(150,860)	(316,343)
\$64,000		(386,163)	(148,502)	(311,400)

	1993	1994	1995	1996	1997	Change 1992 - 1997
6%	57.9%	57.6%	57.4%	56.7%	55.9%	- 6.2%
6	\$278.3	\$259.9	\$249.5	\$242.5	\$236.6	- 22.6%
1	\$161.1	\$149.7	\$143.2	\$137.5	\$132.3	- 27.4%
1	\$153.2	\$142.3	\$136.1	\$130.7	\$125.7	- 27.4%

ers producing defense goods and services

	1993	1994	1995	1996	1997	Change 1992 - 1997
13	2,836,245	2,635,272	2,521,037	2,420,425	2,328,216	(877,096)
34	2,784,677	2,587,358	2,475,200	2,376,417	2,285,885	(861,149)
37	2,734,951	2,541,155	2,431,000	2,333,981	2,245,066	(845,772)
12	2,686,969	2,496,574	2,388,351	2,293,034	2,205,678	(830,933)
56	2,640,642	2,453,529	2,347,172	2,253,499	2,167,649	(816,607)
<b>76</b>	<b>2,595,886</b>	<b>2,411,944</b>	<b>2,307,390</b>	<b>2,215,304</b>	<b>2,130,910</b>	<b>(802,766)</b>
31	2,552,621	2,371,745	2,268,933	2,178,382	2,095,394	(789,387)
30	2,510,775	2,332,864	2,231,737	2,142,671	2,061,044	(776,446)
24	2,470,278	2,295,237	2,195,742	2,108,112	2,027,801	(763,923)
11	2,431,067	2,258,805	2,160,889	2,074,650	1,995,614	(751,797)
32	2,393,082	2,223,511	2,127,125	2,042,233	1,964,432	(740,050)

ed change in employment

	1992 - 1993	1993 - 1994	1994 - 1995	1995 - 1996	1996 - 1997
392					
3)	(369,067)	(200,973)	(114,236)	(100,612)	(92,208)
3)	(362,357)	(197,319)	(112,159)	(98,783)	(90,532)
7)	(355,886)	(193,795)	(110,156)	(97,019)	(88,915)
0)	(349,643)	(190,396)	(108,223)	(95,317)	(87,355)
5)	(343,614)	(187,113)	(106,357)	(93,673)	(85,849)
<b>7)</b>	<b>(337,790)</b>	<b>(183,941)</b>	<b>(104,555)</b>	<b>(92,086)</b>	<b>(84,394)</b>
3)	(332,160)	(180,876)	(102,812)	(90,551)	(82,988)
5)	(326,715)	(177,911)	(101,127)	(89,067)	(81,627)
3)	(321,446)	(175,041)	(99,495)	(87,630)	(80,311)
0)	(316,343)	(172,263)	(97,916)	(86,239)	(79,036)
2)	(311,400)	(169,571)	(96,386)	(84,892)	(77,801)

FY97.<sup>2</sup> The DoD's total outlays (in constant 1993 dollars) decrease from \$324.0 billion to \$236.6 billion over that period of time, a real decline of 27.0 percent.<sup>3</sup> Combining these two effects (i.e., the shifting composition of outlays and the overall decline in outlays), DoD's purchases of goods and services (G&S) decrease from approximately \$192.1 billion in 1991 to \$132.3 billion in 1997, a real decline of 31.1 percent. Because we are interested in the employment of U.S. workers, we net out imports to estimate DoD outlays for U.S. domestic goods and services. In FY90, prime contract awards for work completed outside the United States accounted for 4.9 percent of all DoD prime contract awards.<sup>4</sup> Thus, DoD's outlays for domestic goods and services will decrease from approximately \$182.6 billion in 1991 to \$125.7 billion in 1997.

To estimate the number of private-sector workers in the United States who owe their employment directly or indirectly to purchases by DoD, we divided DoD domestic outlays for G&S by the value added by each private-sector defense worker. The DoD's spending represents the value added by the private sector at all tiers. While the value added by each defense-related worker is not known precisely, a plausible range can be surmised.

In 1991, the value added by each worker to the U.S. macroeconomy was \$47,889.<sup>5</sup> This figure includes the manufacturing and services sectors. In 1987, the value added by each *manufacturing* worker was \$61,613.<sup>6</sup> Assuming a compound annual inflation rate of 3.2 percent, these figures translate into \$51,003 and \$74,431, respectively (when measured in 1993 constant dollars). Because DoD's direct and indirect purchases are drawn primarily from the manufacturing sector, it is

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<sup>2</sup>*National Defense Budget Estimates for FY93*, OSD Comptroller, March 1992, p. 81 for FY87, and FY92–FY93. We used the OSD Comptroller's unpublished estimates for FY94–FY97. For the FY97 estimate, we used National income product accounts from the *Survey of Current Business*, June 1992, p. 9.

<sup>3</sup>Sources: *Budget of the U.S.: Fiscal Year 1993*, Appendix Two-23. For FY87 and FY92–FY97 outlays, refer to Table 1-3 in Chapter 1. For the constant FY93 dollar figures, we made calculations using the latest official DoD Comptroller inflation factors.

<sup>4</sup>*Department of Defense Prime Contract Awards: Fiscal Year 1991*, Directorate for Information Operations and Reports (DIOR), DIOR/P03-91/02, p. 5.

<sup>5</sup>*Economic Report of the President*, February 1992, pp. 298 and 332. We divided gross domestic product in 1991 by employment including resident armed forces in 1991.

<sup>6</sup>*1987 Census of Manufacturers: Preliminary Report, Summary Series*, U.S. Department of Commerce, Bureau of the Census, MC87- SUM-1(P), September 1989, p. 3.

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plausible to bound the range of the value added by each defense-related worker at \$54,000 on the low side and \$64,000 on the high side (in 1993 constant dollars). To the nearest \$1,000, we estimate that the value added by each defense worker is \$59,000.<sup>7</sup> This implies that private-sector defense employment was 3,094,763 in 1991 and that 802,766 jobs will be lost in the private-sector defense industrial base between 1992 and 1997. Our model also suggests that 419,000 defense-related jobs were lost between 1987 and 1992.

Several organizations have estimated the number of U.S. private-sector defense-related workers employed in 1991 resulting from DoD's purchases of goods and services: the Congressional Budget Office – 2.9 million,<sup>8</sup> OSD PA&E – 3.2 million (after netting out 1.05 million DoD civilian employees),<sup>9</sup> and the Defense Budget Project – 3.1 million private-sector workers.<sup>10</sup> The average of these estimates is 3.07 million. Our point estimate of defense-related employment compares very favorably with these estimates, which lends credence to our methodology.

## CONCLUSIONS: EFFECTS OF PROJECTED DECREASES IN U.S. PRIVATE-SECTOR JOBS

The projected decrease in U.S. private-sector defense-related jobs resulting from reduced defense spending between 1992 and 1997 does not imply that 803,000 defense-related workers will be laid off or fired. A large proportion of that decreased demand for labor will be absorbed in the course of normal employee turnover; for example, some workers will retire or take other jobs, but replacements will not be hired. Nevertheless, the decrease in labor demand and the corresponding

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<sup>7</sup>If the employment of workers in the U.S. macroeconomy is split between the goods- and service-producing sectors at 22.8 percent and 77.2 percent respectively, the value-added per manufacturing worker is \$74,431 and the value-added per service worker is \$44,084 (both in 1993 constant dollars). Assuming that DoD purchases are equally split between services and manufactured goods, value-added per *defense-related* worker is \$59,258. For a 65%/35% spending split, the value-added per defense worker is \$54,706. For a 35%/65% split, the value added per defense worker is \$63,810.

<sup>8</sup>*The Economic Effects of Reduced Defense Spending*, Congressional Budget Office, February 1992, p. 23.

<sup>9</sup>*Projected Defense Purchases, Detail by Industry and State: Calendar Years 1991 through 1997*, Economic Analysis and Resource Planning Division, Office of Program Analysis and Evaluation, Office of the Secretary of Defense, November 1991, p. 14.

<sup>10</sup>*Potential Impact of Defense Spending Reductions on the Defense Labor Force by State*, Defense Budget Project, March 1992, Table 4.

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excess supply of labor will operate to depress the real wages of workers remaining in their private-sector defense-related jobs. This effect should help expedite adjustment to a changing economy by encouraging the transfer of labor to their next best alternative use (i.e., reemployment of workers in a growing sector of the economy – or employee retirement).

In the worst case – if the actual number of workers laid off or fired is 803,000 and none of those workers subsequently finds reemployment in another industry (or they retire from the labor force), and the labor force stagnates at current levels – the impact will be an increase in the unemployment rate in 1997 by 0.76 percent above what it would have been otherwise.<sup>11</sup>

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<sup>11</sup>In May 1992, the total civilian labor force was 126.7 million persons, of whom 117.5 million were employed (92.7 percent) and 9.2 million were unemployed (7.3 percent). Source: *Survey of Current Business*, U.S. Department of Commerce, Bureau of Economic Analysis, June 1992, p. S-9.



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